

REMARKS

Claims 2-6, 11 and 18-23 are pending in the instant application, and stand rejected under 35 U.S.C. §§ 112 and 103(a).

In particular, the Examiner has rejected claims 2-6, 11 and 18-23 under 35 U.S.C. § 112 as unclear for using the term “uncirculated (electrolyte) fluid” when what is meant is “leak (electrolyte) fluid”. Further the Examiner has rejected claims 21-23 as lacking basis in the original application for a leak sensor external to the reservoir. Finally, the Examiner has rejected claims 2-6, 11 and 18-23 under 35 U.S.C. § 103 as being unpatentable over Frazier, U.S. Patent 6,308,728, in view of Eidler, U.S. Patent 6,242,125.

Claims 2, 5-6, and 18-23 are amended herewith to correct informalities and to distinctly and clearly claim applicant's invention. Claims 24-25 are added to present variations of the system as independent claims. No new matter is added with the amendments presented herein.

We believe that the above amendments and the remarks laid out below address and overcome the objection and each of the rejections presented in the Final Office Action mailed 26 July 2006.

The Amended Claims

As suggested by the Examiner, claims 2-6, 11, and 18-23 are amended to replace the term “uncirculated” with “leak” or “leaked” to improve clarity of the invention. Further, these claims are amended to replace the term “electrolytic” with “electrolyte” to more clearly indicate the nature of the fluid and to be consistent with the terminology used in the specification.

The New Claims

New Claim 24 has essentially the scope of former claim 23, but is written in independent form.

New claim 25 has the elements of former independent claim 18 with essentially the elements of dependent claim 20. New claim 25 further adds an element of

distinguishing between condensation and leaked electrolyte through resistance measurement. Basis for this additional element is found in the application at page 9, last paragraph.

Claim Rejections – 35 U.S.C. § 112

Claim 18

Claims 2-6, 11 and 18-23 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner states that it is unclear and indefinite to refer to an “uncirculated (electrolytic) fluid” in the claims to indicate a leaked fluid. In response thereto, Applicant has amended the claims to change the term “uncirculated” to “leak” or “leaked” throughout the claims. It is believed that this change clarifies the claims sufficiently to overcome the 35 U.S.C. § 112, second paragraph, rejection.

Claims 21-23

Claims 21-23 stand rejected under 35 U.S.C. § 112, first paragraph, as lacking basis in the original application for a leak sensor in the reservoir leak containment member external to the reservoir. Applicant disagrees, and respectfully suggests that it is Eidler, U.S. Patent 6,242,125, at column 6 lines 28-32, not Applicant’s claims, that provides a leak sensor *within* the reservoir.

Applicant notes that in the original application, page 8, lines 12-13, there is discussion of leak detector sensors 50. In this discussion, just after describing a sensor 50 at line 11 within the stack containment member, the disclosure states “Similarly, sensors are likewise positioned within the reservoir leak containment member, and likewise in the bottom of the unit.” This clearly states that the sensor 50 is within the “reservoir leak **containment member**,” and does not confine the sensor to within the reservoir.

Further, at page 8, line 15, the application states that “the sensors 50 are positioned such that a leak that collects in any of the respective containment members ... will close a circuit ...” Clearly, this contemplates a sensor located within each

containment member, including the reservoir containment member, but external to the reservoir. The reservoir has to be external to the reservoir itself because one of the disclosed sensor type inside the reservoir would be closed by unleaked electrolyte, not by leaked electrolyte.

It is therefore clear that the original application on page 8 discloses a leak sensor in the reservoir leak containment member external to the reservoir, as claimed, and the 35 U.S.C. § 112, first paragraph, rejection can not stand.

35 U.S.C. § 103 Rejections

The Examiner has rejected claims 2-6, 11 and 18-23 under 35 U.S.C. § 103 as being unpatentable over Frazier, U.S. Patent 6,308,728, in view of Eidler, U.S. Patent 6,242,125.

For a rejection to be proper under 35 U.S.C. § 103, the cited art should show all elements of the claimed invention, together with a suggestion in the art that these elements be combined to produce the claimed invention. We respectfully disagree with the Examiner and traverse the rejections of claims 2-6, 11 and 18-23, since the cited art does not teach or suggest each and every limitation of the dependent claims, and Eidler teaches away from the combination.

Claim 18

In making the rejection, the Examiner relies on Frazier, U.S. Patent 6,308,728 for a containment system having a leak detection sensor. Frazier does not disclose a flowing-electrolyte battery. The examiner relies on Eidler, U.S. Patent 6,242,125, to provide the missing elements of the flowing electrolyte battery.

Eidler teaches away from the combination of Eidler with Frazier by providing level sensors in the electrolyte reservoirs, and teaching that these level sensors are sufficient to determine an electrolyte leak condition at column 6, lines 28-32.

Claim 3

In addition to the above arguments related to its parent claims, including claim 18, applicant notes that Claim 3 includes the element of "a resistor connected in parallel to

the switch”. This element is not only not found anywhere in the cited art, but can provide substantial utility by allowing automatic verification of circuit continuity if the resistor is located with the switch.

With the resistor element not found in cited art, the 35 U.S.C. § 103 rejection fails to meet the Examiners obligation of providing a prima-facie case of obviousness for this claim.

Claims 5-6

In addition to aforesaid arguments related to their parent claims, Applicant notes that claims 5-6 have elements of separate containment members for an upper stack and a lower stack, arranged such that the upper stack containment member can overflow into the lower stack containment member. Nowhere is this arrangement found in Eidler or Frazier. Since this additional element is not found in the cited art, the pending 35 U.S.C. § 103 rejection fails to meet the Examiners obligation of providing a prima-facie case of obviousness for this claim.

Claims 22 - 24

Applicant notes that claims 22 – 24 have separate containment members for at least one stack and for the reservoir, each of which has a separate sensor. Eidler combined with Frazier provides only a single containment member. The separate sensors for each containment member of Applicant’s device provides an enhanced diagnostic ability of enabling the controller to localize leaks, thereby expediting repairs.

Claim 23 & 24

In addition to the argument with respect to its parent claims, Applicant notes that Claims 23 and 24 have a further element of the “stack leak containment member is located above the reservoir leak containment member and includes an overflow opening which directs an overflow of the electrolyte fluid into the reservoir leak containment member disposed underneath the stack leak containment member.” This element is not found in the combination of Eidler with Frazier. Since this additional element is not found in the cited

art, the pending 35 U.S.C. § 103 rejection fails to meet the Examiners obligation of providing a prima-facie case of obviousness for these claims.

Claim 25

In addition to the arguments related to claim 18 above, applicant notes that nowhere in Frazier or Eidler is there a suggestion that the leak sensor be capable of discriminating between a relatively benign condition like the accumulation of condensation from a more serious condition like an electrolyte leak.

Conclusion

Claims 2-6, 11 and 18-23 are amended to point out and distinctly claim applicant's invention, thus overcoming the 35 U.S.C. §102 rejections. The cited art teaches away from the combination of claim 18, and therefore fails under 35 U.S.C. § 103. Further, the cited art does not teach or suggest each limitation of claims 2-6, 11 and 19-25, as amended, and therefore fails under 35 U.S.C. §103, whether taken alone or in combination. We respectfully request withdrawal of each of the Examiner's rejections and objections.

This preliminary amendment and request for continuing examination is submitted with a Three-Month Extension Fee believed due. A Petition for Three Month's Extension of Time is submitted herewith. No further fees are believed due; however, if any additional fee is required in connection with this Amendment and Response, please charge deposit account 12-0600. Should any issues remain outstanding, the Examiner is encouraged to telephone the undersigned attorney.

Respectfully submitted,
LATHROP & GAGE L.C.

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